A Multivariate Investigation of Professed and Inferred Self Concepts of Fifth and Sixth Grade Students

By

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Abstract of Dissertation Presented to the
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A MULTIVARIATE INVESTIGATION OF PROFESSED AND INFERRED
SELF CONCEPTS OF FIFTH AND SXITH GRADE STUDENTS

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Fifth and sixth grade pupils from two North Florida elementary schools having different practices were administered the Pupil Florida Key (PFK) and the Coopersmith Self-Esteem Inventory, two self report measures. Their teachers rated them on the Florida Key (FK), a learner self concept inventory whose items paralleled those of the PFK. Correlations calculated between parallel items on the FK and PFK showed little commonality in scoring, as did a subsequent analysis using factor scores from these inventories. The conclusion was drawn that self report indices should generally be considered distinct from inferred self concept measures.

Factorial analyses of variance using the above indices were performed with school, sex, and their interaction identified as the sources of variability. Girls tended to have higher indices, as did the more innovative school.

CHAPTER I

Statement of the Problem

In the years which have followed the re-emergence of perceptual psychology as a significant force in psychology and education, there has been a proliferation of methods and approaches for systematic study of the individual within a phenomenological framework. This should come as no surprise within an approach which has as a major concern the exploration of the uniqueness of the individual's perceptions. Furthermore, perceptual psychology inherited a long history of philosophical concern about the problem of mind and self.

Diggory (1966) traces the history of theoretical development of thought about self from Homer through Descartes, who initiated the concern of the interaction of two aspects of man previously considered independent: body and mind. Serious theoretical questions about mind were followed from Descartes through the British empiricists to William James, whose work marked the beginnings of systematic study of the personal internal world of the experiencing individual. Concern at that point in history began to shift to aspects of self such as the development and differentiation of self, the I-me relationship, and the question as to whether self is divisible, and, if so, how to best categorize aspects of self.

After a lull in interest in self theory on the part of American psychologists of the early part of this century, a lull generally associated with J. B. Watson and the behaviorist school he represented,

students of the self began to reappear. In this renaissance of interest, there was an aspect not prevalent earlier, empirical research aimed at validating and making practical the theory. At least two forces are seen to have been working in concert to foster this development. The first force was that the experimental, cause-seeking orientation of behaviorism was still valued, even if the early aims of behaviorism were not. A second factor was the continuing development of research tools for behavioral science such as design, statistics, and measurement theory. Field theorists such as Koffka (1935) helped link the various schools by specifying that the self, at the core of the ego, represented acts pertinent to real needs of people, and that the early behaviorists had been concerned with quasi-needs; thus more global and individually determined concepts were needed to account for behavior.

Self, or, more objectively, phenomenal self, has been defined by Combs and Snygg (1959, p. 58) as "all those parts of the phenomenal field which the individual experiences as part or characteristic of himself," where the phenomenal field is the experience of the perceiver. Within the phenomenal self, they define self concept as including "those parts of the phenomenal field which the individual has differentiated as definite and fairly stable characteristics of himself" (p. 112).

The usefulness of measures of self concept has been defended by Hilgard (1949), who has stated the necessity of using self concept to understand defense mechanisms. Hebb (1960) postulated the necessity of using self concept measures for studying thinking. Numerous studies (Cowen et al., 1955; Perkins, 1958a; Bruck and Bodwin, 1962; Brookover

et al., 1964; Cline et al., 1964; Purkey, 1970), which will be reviewed later, have demonstrated relationships of self concept variables with social achievement.

Wylie (1961) published a review of the research in perceptual psychology, in which she critically assessed the "state of the art" at that time. In this review, Wylie lamented the lack of standardization of terminology and instrumentation, and is especially critical of research efforts which devise a special instrument which is only used that one time. Work such as that undertaken by Fiedler, Dodge, Jones and Hutchins (1958), in which they develop indices of relationship between instruments, is seen as very valuable by providing means to relate findings between studies which have used different measures. This approach could spark more intensive theoretical analysis if variables previously considered similar were to show little or no relationship experimentally, or conversely, if attributes previously considered distinct and independent were to show correlation. The lack of widely accepted criteria against which to compare self concept measures is a major difficulty.

Background of the Study

This study will explore the interrelations of the two major approaches in determining an index of self concept. One approach used is to rely on the subject to overtly provide information about himself. The intent of the instrument may be either obvious or disguised, global or particular. Instruments of this nature will be referred to hereafter as self reports. The use of the self report is supported by statements such as the following by Moustakas (1965, p. 45): "The individual's perception of his own feelings, attitudes, and ideas is

more valid than any outside diagnosis can be." The advantages in using the self report are that it can provide measures from a large number of subjects on numerous items related to the phenomenon under investigation, and do so with a relatively low expenditure of money and time.

The second major measuring technique is to ask for an objective rating of the subject by someone else, generally a trained observer. The indices of self concept so garnered will be referred to as inferred self concept scores. Advantages to this method include reduction of idiosyncratic variation due to semantic problems of level (i.e., "well adjusted" might mean to one person what "adjusted" means to another), or interpretation of terms. Reliance on an observer also reduces variability attributable to individual tendencies to "fake good" or "fake bad," and allows for evaluation of characteristics which are not apparent to the individual himself. Many measures of self concept, by nature of being concerned with items of obvious personal meaning, can be characterized as "reactive" as defined by Campbell and Stanley (1963). Inferred self concept scores avoid this generally undesirable source of variation. Practical difficulties arise using this procedure if a large number of subjects are desired, since stable measures from observations require time proportional to the complexity of the attribute in its conceptualization and occurrence. It could be emphasized that these two methods of collecting data about perceptual phenomena are not opposing methods. A self report instrument can provide valuable information to an observer, as an adjunct to his observations. Self reports, on the other hand, are suspect when used with people with clinical psychopathologies for reasons listed by Combs, Soper, and Courson (1963) unless the deviance is considered as a separate variable.

The aspects Combs et al. felt to be necessary in the individual for self report measures to yield valid indices of self concept are:

1. The clarity of the individual's awareness
2. The availability of adequate symbols for expression
3. The willingness of the individual to cooperate
4. The social expectancy
5. The individual's feelings of personal adequacy
6. His feeling of freedom from threat.

In support of their position, Combs et al. correlated responses of students on 18 items such as "I feel worthwhile - I don't amount to much" with evaluations from trained observers of those students on the same items. Correlations were predominantly low and positive; however, there was no attempt to determine the reliability of the self report instrument and the range of possible student responses was limited within these one-item scales.

Purposes of the Study

There is a continued widespread use of the term "self concept" in studies using both inferred self concept and self report procedures despite the injunctions of Wylie (1961) and Combs et al. (1963). In view of this and the methodological limitations of the Combs et al. study, a reexamination of the relationship between these measures was proposed. One purpose of this study was to examine the multiple relationships between two self report instruments and one instrument in which specific aspects of learner self concept are inferred. Two of these instruments used very specific terminology to reduce variability due to differences in the interpretation of the meanings of the items, and restricted their emphasis to areas of learner self concept. All three instruments were comprised of numerous related items to increase reliability (Thorndike and Hagan, 1969, p. 183). High positive

relationships between the procedures could indicate that much of what is known from research using one procedure is applicable to research using the other procedure. Low relationships in certain dimensions, on the other hand, could mean that it would be unsafe to generalize results from one technique to problems in which the other technique would be more appropriate until further evidence could support the generalization. Low relationships on certain dimensions could also indicate a basic difference between self-perceptions and teacher perceptions even on frequency of observable behaviors. In the latter case, the major implication for teacher training would be to make future teachers aware of the possible lack of congruence of perceptions, so that they might become more perceptive, both of the students' behavior and of the students' self-perceptions.

The second purpose of the study was to continue the investigation of the effects of deliberate and intensive efforts to enhance pupil self concept (Purkey, Graves, and Zellner, 1970) by comparing two schools with different emphases in the area of self concept development. One school had a deliberate, public and planned effort for this purpose, and the other school was much less systematic in this area.

CHAPTER II

Review of the Literature

The need for a phenomenological system of psychology was outlined by Snygg (1941), who emphasized that the frame of reference from which measurements are taken is a critical aspect in any field of science. In phenomenological psychology, this point of reference is at the level of the individual's perceptions and experiences, rather than at the level of the external stimuli which surround him. The most basic perceptions in terms of their centrality and durability are those which reflect the person's ideas about himself. Rogers (1951) maintained that self is central to the individual and that enhancement of self is a high priority issue, perhaps taking precedence over organismic concerns. This position is related to that of Combs and Snygg (1959), in which the role of the self is seen as the determiner of behavior. A summary of the important characteristics of the self was made by Purkey (1970), who described the self as organized, dynamic, and learned.

Aspects of Self

There have been numerous attempts to subdivide the self into aspects which are distinct and amenable to identification and which have differential effects within the person. One major system for categorization of aspects of self has been to divide the self in two parts. One aspect of self is seen by this system as that part or process which views and evaluates itself, the notion of the self-as-object. The other

aspect of self within this system does not have this component of self-awareness, but is the prime determiner of behavior, the self-as-process. Gordon and Gergen (1968) outlined some implications of this formulation of the self in the area of self-understanding. Rentz and White (1967) have shown that these two concepts, both defined using self report instruments, have some shared aspects as well as some unique aspects. It would seem, however, that the self report is more appropriate when considering the self-as-object, and the procedure of inferring self concept is more related to the self-as-process.

The development of an individual self is seen by many (Snygg, 1941; Allport, 1961; Jersild, 1960; Lecky, 1969) to be through the mechanism of learning, wherein aspects of the phenomenal field are differentiated which were previously undifferentiated. In the development of the self through learning, Murphy (1947) and Allport (1955) have examined the special importance attached to the condition of striving with regard to the differentiation of the phenomenal field, especially in the area of self-knowledge. Combs (1952) outlined a procedure through which intelligence could be considered dependent upon an adequate self concept, showing the reciprocal nature of the internal and external world of the individual.

Developmental Implications of Self Concept

The role of "significant others," such as parents, in the "learning-of-self" process is of importance to educators and psychologists in order that they might better understand human development. Such understanding can be used when these professionals have to interact with the "significant others" in connection with the children and, therefore, must know the ramifications of this psychological dynamic in

order to coordinate with and advise parents to maximize the child's development. Furthermore, teachers and other professionals become "significant others" to children because of their roles as agents of the society having opportunity and obligations to effect changes in the children. Thus, it is imperative that they understand the implications of this developmental process. For example, when working with children, it is important to consider that new perceptions, if they interfere with or threaten the dynamics of the self, can be rejected even when such rejection is both logically inconceivable to the outside observer and unpredictable from an examination of the external stimuli (Lecky, 1969, p. 117). The more central a concept is to self, the more stable and resistant to the above change.

Some degree of stability of the self concept is a necessary condition if relationships of phenomenological variables to human behaviors are to be explored. Research in different areas at different age levels employing different instruments has demonstrated a fairly stable relationship within those instruments and age levels (Brownfain, 1952; Engel, 1959). On the other hand, changes in the way pupils think about and see themselves have been investigated by Yeatts (1967), who reported differences in spatial relationships between self report variables obtained from children at different grade levels. Gergen (1968) reviewed the literature and theory of consistency and indicated that very high levels of psychological consistency are not desirable in humans. This is in keeping with an organism so dependent on adaptation to a changing environment.

In brief, if the self be viewed as the internally consistent, dynamic determiner of behavior, dependent on a supportive environment

for maximum growth and effectiveness, the relationship of self theory with the social institution of education is strong and obvious.

Self Concept and School Achievement

Numerous studies, using a multitude of instruments and orientations, have shown consistent relationships between self concept and school achievement from kindergarten through college. In some of the earliest work in this area, Sears (1940) used a discrepancy score procedure and found that children's levels of aspiration were related to their academic performance. Work by Combs and Soper (1963) and related research by Lamy (1965) indicated that measures of inferred self concept, using the observer-as-instrument technique they pioneered, were related to academic performance in kindergarteners. Stability of this relationship was established in this research by the correspondence of predictions made by Combs and Soper with ratings made on these children the next year by their new teachers. Sex-based differences were checked on a kindergarten population by Ozehoskey and Clark (1970), in response to work with older children (fourth and sixth grades) which showed girls with higher self concepts than boys (Bledsoe, 1964). Although Ozehoskey and Clark found no differences associated with sex at this earlier age, they did find impressive relationships between self concept measures and both the Metropolitan Readiness Test and the children's grade-point average.

Bledsoe (1964) also found significant correlations of achievement measures with his own self report instrument (modified from Bills' IAV, 1951) for boys but not for girls. Underachievers were found by Bruck and Bodwin (1962) to have lower self concept scores, as inferred from the draw-a-person technique, even after controlling for differences in

intelligence. Fink (1962) found male lower achievers in the ninth grade to be rated lower than higher achieving males on adequacy of self concept ratings assigned by three experienced raters reviewing numerous psychological protocols. Females in this study were not found to differ significantly on this basis. In a study encompassing several secondary grade levels, Brookover, Thomas, and Paterson (1964) found significant correlations of self ratings of general ability and ability in specific academic areas with academic achievement, controlling for the influence of intelligence. A conclusion was drawn from this research that a feeling of self confidence of ability may well be a necessary (but not sufficient) condition for achievement.

The relationship of self concept with achievement seems to remain even in higher education. In a study by Roth (1959), college students who attended a remedial reading clinic and were successful tended to rate themselves higher on reality-oriented dimensions of a Q sort for self concept, ideal self concept and "ideal-actual" self discrepancy than those who did not succeed or who dropped out of the program. The latter group tended to rate themselves higher on some dimensions related to ideal self. Within a women's college, Flaherty and Reutzel (1965) found female high achievers rating themselves higher on such California Personality Inventory categories as "responsible," "self-accepting," "self-assurant," and "poised." Low achievers in college, it should be remembered, still have a history of relatively high achievement compared to the general population, and yet their self-comparisons are apparently based on their perceived peer group (i.e., college students).

The possibility exists that social class is a factor strongly related to both achievement and self concept, and that many of the above findings could be more parsimoniously and reliably attributed to social class differences. Soares and Soares (1969) found, however, low socioeconomic class black children having higher self report scores than middle class white children. Davidson and Lang (1960) also examined this possibility and concluded that, even though lower social class children reported lower self concepts, when social class was held constant statistically, a distinct relationship between self reports and academic performance still obtained. Another finding by Davidson and Lang was that girls in the fourth through sixth grades reported higher self concept scores than boys and also saw their teachers as being more favorable towards them in comparison to boys' perceptions of teacher favorability. Girls of this age were also found by Perkins (1958a) to show higher "ideal-actual" self congruence than boys.

The interactive effect of teachers on the self-picture of pupils was examined by Staines (1958) and it was found that teachers who deliberately attempted to instill and maintain a realistic level of aspiration seem to effect a more realistic self concept in their students. Work in the same area by Battle (1957) and Davidson and Lang (1960) indicated that children whose values coincided with those of their teacher tended to achieve higher. Perkins (1958b), Purkey (1967, 1970), and Combs, Avila, and Purkey (1971) have written extensively about methods and attitudes conducive to the enhancement of learners' self concept.

Measurement Theory and Perceptual Psychology

Allport (1955) summarized the organization of observation and interpretation in phenomenological psychology, starting with three broad categories of constitutional diagnosis, sociological techniques and psychological techniques. The psychological techniques he subdivided into personal documents, self-appraisal, conduct sampling, ratings, scales and tests, projective techniques, depth analyses, and expressive behavior.

Two basic categories of phenomenological variables have been mentioned previously, self report and inferred self concept. Although all techniques above could conceivably be used to get an index within either category, some techniques and methods are more appropriate for a given category. For example, the depth analysis would be more appropriately used to infer self concept, while self appraisal best yields a self report. Some techniques, such as scales, are commonly used to give an index within either category.

Other dimensions will be discussed which may be superimposed on the universe of perceptual variables. Consideration of these dimensions is useful in that they illustrate sources of variability between measuring devices that can cause concern about reliability and validity of the indices thus obtained. These concerns are especially important to perceptual measurement because of the problem of validation. Ideally, validation is accomplished by relating a measure of a construct to an objective criterion acceptable to experts within the discipline. The logical criterion for self concept measures would seem to be the adequacy and effectiveness of the individual's life-style in accomplishing his purposes, but this data is not likely to become available for

validation purposes, so validity has to be established by indirect methods, such as expert judgment or the relationships of self concept measures with partially related, confounded criteria. The indirect approach dictates more concern with initial instrument construction, since inappropriate aspects cannot be as readily eliminated.

One dimension which is a source of variability is overtness, the degree to which the true purpose of an instrument is explicit or obvious to the person supplying the information. This dimension, although it can be varied in either self report or inferred self concept techniques, is most commonly varied in the former. In making the decision of how much overtness to engineer into an instrument, the interplay of two considerations, social desirability and validity, creates a dilemma. The systematic variations which can be attributed to the social desirability of possessing an attribute, rather than the degree of that attribute actually possessed, is an area explored in detail by Crowne and Marlowe (1964). Social desirability is of particular relevance to humanistic psychology where the attributes of concern are, virtually by definition, matters of general, social and personal importance, and social desirability can be expected to influence overt self reports and even mannerisms and behaviors from which self concept measures are inferred.

Covert measures attempt to circumvent the variability due to social desirability by stressing items which, though apparently innocuous, reflect deeper traits. Accurate use of covert measures, however, is dependent upon the degree of relationship between the directly measured attribute and the target trait for which the first measure provides an indirect index. As an example, number of cigarettes smoked may be inferred from yellow stains on fingers, but the index lacks some

validity as yellow stains do not have to come from cigarette smoking. Furthermore, the stains can be avoided or eliminated without changing smoking frequency. Accuracy in covert measures is further dependent on the reliability of the measurement of the measured variable. Both of these considerations are critical in humanistic psychology, as the degree of relationship between variables is generally neither known empirically nor agreed upon theoretically.

Although a great deal of inference is obvious in covert measures of self report, this inference is a priori and, therefore, these measures are not to be confused with inferred self concept indices. In the former procedure, two people who complete protocols in the same fashion will obtain the same score, whereas in the latter procedure, this is not necessarily true, as interpretation by the scorer is individualized for each subject and the scorer is free to use what Bruner (1958) referred to as the "nascent surplus" of information which the more mechanistic scoring procedure cannot tap.

Another important dimension of measurement is the generality of the attribute being measured. If all other considerations were equal, the more global measures would better satisfy the criterion of parsimony. To the extent, however, that a more global measure lacks operational definition and, therefore, loses interrater reliability, positive results from replication and generalizability suffer. Wylie (1961) concluded that the comparatively specific explorations into particular aspects of self have proven more fruitful than research using global measures. This would seem a logical conclusion if the self is conceptualized, as previously mentioned, as the product and process of continual differentiation. If the self is thought of as having numerous independent aspects,

this could serve as a further explanation for the general lack of success of research using global measures since a particular part of self could be operating effectively on a target behavior and yet an overall measure could show low effectiveness.

Some degree of generality must be present if research efforts are to extend the nomological development of the theory. It should also be remembered that the differentiation of the self concept is unique to the individual and, within that, unique to the situation, so that some degree of generality must be present, or no one could know anyone else. Further, self knowledge would be even more difficult than it now is due to an inability to generalize and categorize from others.

Perceptual Measurement Techniques

One frequently used method of obtaining a self report is the Q technique developed by Stephenson (1953). In this technique, a number of items (usually 70-120) descriptive of personality traits are presented to individuals, who are asked to assign each of these items to one of several (usually 5-9) discrete categories, with a fixed number of responses falling into each category to approximate a normal distribution. One of two procedures may then be followed to determine an index of self report. One procedure is to have the individuals score the same items twice (or more) according to differing sets of instructions which represent different aspects of the self (i.e., "sort these as you see yourself now" - actual self, or "sort these as you would like to be" - ideal self). The correlation between the sorts is considered to be index of congruence of the two attributes. Evidence marshaled by Cole, Oetting, and Hinkle (1967) indicated that either low or high discrepancies between "ideal" and "actual" self reports were

associated with clinical psychopathologies, and that a sample of non-clinical people tended to have moderate levels of congruence. This finding cast shadows on conclusions of earlier research which assumed that high "ideal self - actual self" congruence was the most desirable state.

The second procedure which may be followed in scoring the Q sort is for the developers to establish a priori weights (matching-to-standard) for the items in order to determine the level of a particular attribute. The correlation between those weights and the obtained distribution is taken to be the individual's index of that attribute. Wylie (1961) raised the question of whether the latter procedure is in fact phenomenological, the point being that in the former procedure, the order of selection of the variables is determined and judged within the person, whereas in the latter procedure, an external criterion is being imposed on people's selections.

The Q technique has been used with a variety of items, sorts having been made on words, phrases, and even short paragraphs. Items have been selected from clinical protocols, exhaustive trait lists and other sources. The type of item included and the source of items need to be carefully considered for appropriateness to a particular research problem. The "standard" list at present in phenomenological research, from the frequency of use, is Butler and Haigh's (1954) list of 100 statements gleaned from clinical protocols.

A discrepancy procedure somewhat less extreme in psychological distance than the "ideal self - actual self" congruence technique has been developed and used by Brownfain (1952). In this approach, people are asked first to rate themselves as they think they are. Next they

are asked to rate themselves on the same scale but giving themselves the benefit of every doubt, and on the third rating to be as self critical as they truthfully can.

Another popular form of perceptual measuring device is the rating scale which is used in both self report and inferential measurement. In this technique, the individual is asked to measure the degree to which he possesses or is represented by, an item presumably related to a more general attribute. Items can be selected which are either logically and/or functionally related to the attribute of concern. Bills' Index of Adjustment of Values (IAV, 1951) is a scale of 49 traits which were selected from a longer list on the basis of their logical connection with adjustment. The Minnesota Multiphasic Personality Inventory (MMPI, Hathaway and McKinley, 1942) is an example of a scale sometimes used in perceptual research in which items were selected for their correlation with psychological disorders or other attributes, regardless of logical connection. Adjective or trait checklists are subsets of rating scales and are generally dichotomous.

A variation on the theme of rating scales is the semantic differential approach developed and reported by Osgood, Suci, and Tannenbaum (1957), which is somewhat covert, and which assumes that most individuals share connotative as well as denotative interpretation of numerous adjectives which are common in the English language. In the semantic differential procedure, an attribute is named and followed by a set (3-20) of bipolar adjectives, each of which defines a continuum (i.e., hot - cold). The extremities of each dimension are commonly divided by a five-to-seven-point unlabeled scale which allows the individual to select his own appraisal of the characteristic of the target attribute.

With the adjectives generally used, three independent characteristics of attributes emerge from a factor analytic procedure, evaluation, potency, and activity. This indicates that people tend to categorize attributes in terms of the perceived organization and dynamics of those attributes. It is interesting but futile to speculate whether people tend to see the world in terms of organization and dynamics because of these characteristics of their selves, or whether self theorists have viewed the characteristics of self as they view the characteristics of other phenomena.

A procedure which allows for individual selection of constructs is the Role Construct Repertory Test (Rep Test, Kelly, 1955). In this procedure a person generates his own category system and uses the categories thus generated to rate people significant to him. This allows for a more individualistic analysis of the person's perceptual field. A time-sharing, terminal-based computer program for simplifying the rather elaborate administration and scoring of the Rep Test was developed by Guertin (1971) who also modified the administration to take advantage of the Q sort methodology.

In an effort to combine individualized responses with self report techniques, Bugenthal and Zelen (1950) instituted a procedure in which they asked people to give three answers to the question of who they thought they were. C. Gordon (1968) described his refinements of this procedure, primarily by developing coding systems to organize the wide-ranging responses into meaningful dimensions.

When a projective technique is administered and scored using prearranged keys, a richer variety of information is available, in part since numerous keys can be used to measure different aspects of

personality from one administration of the test, and in part since greater flexibility in responding inherently provides the possibility and probability of greater information. Nonetheless, projective techniques are among the more covert devices, and the latitude of response is so varied that valuable information may well be lost when scoring them "objectively." When used as a stimulus in an observation period, a projective technique can intensify the setting and provide some structure and commonality for the observer, as well as practically guaranteeing some minimum level of activity. Exclusive use of this technique is generally not indicated, however, due to the situation generally being perceived as unnatural, thus allowing for situational reactivity and bias.

Some of the earliest work with use of expressive behavior as an index in perceptual research was undertaken by Huntley (1940), who had subjects repond to photographs of mannerisms and gestures of body parts. In order to counteract theoretical concerns about cross-cultural mannerisms, or sex-linked differences, Huntley provided his subjects with unidentified cropped photographs of their own mannerisms for evaluation and had the subjects thus unwittingly rate themselves, providing and index of self ideal discrepancy.

Inferences of self concept have been made from protocols such as those already discussed and from systematic observation. The latter can involve a prearranged formal situation, such as a situational test (Cronbach, 1960), a less systematic but directed session, such as most interviews, or it can be undertaken in a more natural setting, such as the work by Barker (1968). In the work reported by Combs and Soper (1963), all these procedures were combined to produce a technique known

as observer-a-instrument. An important consideration when accepting inferences from one person about another is the possibility of systematic rater variability stemming from attributes other than those relevant to the study. Bossom and Maslow (1957) explored this possibility with relation to raters' feelings of psychological security.

Measuring self concept in children is a special case. It is a truism that childhood is the period of most rapid development, psychologically as well as physically. It follows, then, that self concept is most malleable during this growth period, a conclusion which Perkins' (1958a) study validated. In his chapter on "Growth of Self," Purkey (1970) reviewed and expanded upon findings with implications to early experiences and the growth of self concept. Evidence of relationships between self concept measures and school achievement in the early school years was presented by Shaw and McCuen (1960), Combs and Soper (1963), and Ozehoskey and Clark (1970).

Problems in measuring children's self concepts, especially self reports, are numerous. In such a rapidly changing system, lack of reliability can be attributed to "real" changes as well as to errors of measurement such as faults within instrument design. Extraneous variables which could influence self report include: tendency to mimic others' responses, inability to remember or comply with testing instructions, inability to discriminate shades of meanings within the scales, or even inability to read with sufficient comprehension to understand the items. These latter considerations have led to modifications such as those found on the "I feel - me feel" test (Yeatts and Bentley, 1971), in which scale points are indicated by faces which range from very happy to very sad. Instructions and items can be read to pupils to allow for some reading level variation.

Projective techniques, such as the Machover Draw-A-Person test (Machover, 1949), are occasionally used but the defense mechanisms which the adult projective measures seek to circumvent are only developing in childhood (Sullivan, 1953) and the rationale for the use of child projective techniques is thus weakened. Although the individual's suspicion and curiosity about the ulterior purpose of the test should be less with younger groups, a counterbalancing consideration is that child projective techniques are tapping a more superficial and situationally oriented perceptual field, which may be further confounded with motor skill development.

Relationships Between Perceptual Variables

Detailed and systematic conclusions are difficult to arrive at in the research reviewed due, in part, to the abundance of measurement techniques (Gordon and Combs, 1958; Wylie, 1961; Diggory, 1966; discuss this problem). Efforts to relate different measurement techniques are seen to be needed to reduce the conceptual space presently in evidence in phenomenological research, to provide bases for comparing studies which have used different instrumentation and thus to provide a feedback mechanism for theorists. In a study on college men, Calvin and Holtzman (1953) obtained adjustment ratings on each man in a fraternity from the MMPI and also inferred adjustment scores from each man's companions. Inference scores were taken from the companions in the form of answers to rather global questions about the personality of the rated person, such as his ability as a leader, and his tact and social understanding. Self report scores were taken in basically the same procedure. The tendency to view self in an essentially negative way was found to increase as adjustment decreased.

Using adjustment techniques to arrive at a self concept index, Storm, Child, and Frank (1956) found no relationship between Thematic Apperception Test (TAT, Murray, 1943) scores and self ratings or childhood experiences. Low correlations were found by Cowen et al. (1955) between two standard self report instruments (Bills' IAV and Brownfain's technique), both of which purported to measure self regard. Coopersmith (1967) found low moderate correlations between a self report index and a different, rather global, test he devised for teachers to infer student self concepts.

In a factor analytic investigation of self ratings, teacher ratings and achievement scores which included some perceptually oriented variables, Cline, Richards, and Needham (1964) found internal consistency within each rating technique but few high correlations of parallel items from pupil to teacher.

Perkins (1958a) found correlations from 0.04 to 0.71 between teachers and pupils on Q sorts of self referent statements for various teachers rating various pupils, no teacher rating the same student as another teacher. Of the 50 items used, however, only five referred to school activities, and only three of those five referred to the pupil's role as a learner, so the index could best be called a global self concept rating.

In an attempt to experimentally confirm the strong theoretical arguments in favor of the independence of self report and inferred self concept indices, Combs, Soper, and Courson (1963) obtained indices on 59 sixth grade pupils from experienced observers on 18 items relating to attributes of importance within perceptual psychology. The same 15 items were given to the sixth graders so that they might rate themselves.

Correlation coefficients were calculated for each item between the self rating and the inferred rating. Coefficients ranged from -0.20 to 0.34, with an adjusted mean of 0.11 indicating little self-other correspondence within any one item. Single-item indices of personality are most likely to include large components of error variability, and means calculated from correlations obtained between such indices carry forward the error instead of balancing it out. Self concept indices obtained from multiple unidimensional samples of overt behavior are much less likely to include large error variability.

A possible limitation to interpretation of the above results could arise if curvilinear relationships were to be found between inference ratings and self ratings. An interaction of scores assigned by teachers and self assigned score was found to be a major source of variability in a transposed factor analysis of pupils when using both self report and inferred self concept measures (Graves, 1971). Curvilinearity of these measures will be further explored in this study.

CHAPTER III

Design and Method

Measures Used in the Study

The measures of self concept used in this study included the Florida Key (FK), developed by Purkey, Cage, and Graves (1971); a form of the same instrument modified for pupils (PFK); the 25-item Coopersmith Self-Esteem Inventory, short form (SEI, 1967); and a three-item, school-oriented subscale (SSEI) of the SEI. The FK is an instrument developed to infer aspects of learner self concept (see Appendix A), and is comprised of 18 observable behaviors rated by teachers according to frequency of occurrence on a six-point scale ranging from zero (never) to five (very often). The PFK is similar to the FK (see Appendix B) except for rewording of the directions so that students can give self reports of their perceived frequency of performing the same 18 behaviors. The SEI (see Appendix C) contains 25 statements which the pupil is asked to evaluate as being "like me" or "unlike me," and the SSEI is the subset of SEI items 2, 17, and 23.

Previous work by Purkey et al. (1971) established that the FK measured four areas of learner self concept, labeled relating, asserting, investing, and coping (see Table 1). Interjudge and split-halves reliability indices were high, averaging 0.84 and 0.93, respectively. Validity was judged high by a panel of educators and psychologists.

TABLE 1

Rotated Factor Loadings for Florida Key
(Values below .400 omitted)

Item	Relating	Asserting	Investing	Coping
4	.732			
5	.731			
11	.712			
2	.617	.538		
15	.616			
9		.800		
13		.772		
12		.766		
1	.400	.725		
10	.429	.604		
3	.500	.565		
8	.412	.553		
16	.410	.501	.524	
14		.562	.448	
6				.717
18	.481			.617
17	.464			.613
7		.481		.612

Description of Children and Schools

These instruments were administered to all children (N = 249) in the fifth and sixth grades of two elementary schools in North Florida in the spring of 1970. One school, hereafter called the innovative school, was located in a Northeast Florida suburban town. The 97 students there were predominantly white middle class. The demographic breakdown of the 152 pupils at the other school, located in North Central Florida and called the conventional school, was approximately 70 percent white and 30 percent black children, ranging from lower middle to middle class. Innovations at the innovative school include team teaching, flexible scheduling and a particularly heavy emphasis on the personal development of each child. Classes in the conventional school were compartmentalized by subject matter and ability level in the fifth and sixth grades.

Design and Method

Administration of the self report instruments (PFK and SEI) was undertaken by the teachers of the innovative school, using the instructions of the investigator, who administered these instruments himself at the conventional school.

The data analyzed included the 18 item scores and the four factor scores of both the FK and PFK, as well as the SSEI subtest score and total score of the SEI, giving a total of 46 scores for each student. The factor scores for the FK were generated using the procedure described in Guertin and Bailey (1970). Factor scores for the PFK used the factor score coefficients of the FK to assure logical comparability of the FK and PFK measures.

To determine the relationship between the items on the FK and those on the PFK, particularly between those items in which the only difference is the person reporting the score (i.e., the items which are parallel on the two tests), a cross-correlation of the 18 FK items with the 18 PFK items was performed, using all subjects. In this way, students' behaviors perceived in the same way by students and teachers (perceptually congruent items) were identified. Perhaps more important, items on which students and teachers disagreed as to the perceived frequency of occurrence (perceptually discrepant items) were identified and analyzed.

Factor scores, as more reliable measures of general aspects of learner self concept, were compared between the FK and the PFK. The FK factor scores were also correlated with the SEI scores. This analysis determined the degree of relationship between the measures of inferred self concept as a learner and the self report measures.

A possible contaminant in the previous procedure could be present if persons scoring centrally on an FK scale were to, by some psychological dynamic such as identification with a higher status group, score lower on the corresponding PFK than pupils scoring either high or low on the FK scale. This possibility was checked by running a curvilinear regression analysis on the parallel factor scores of the FK and PFK, and on the eight FK-SEI combinations.

To explore possible differences between sexes at the grade levels examined as well as differences between schools such as those found by Purkey, Graves, and Zellner (1970), a two-way factorial design analysis of variance was performed on the ten indices of self concept (four factor scores each on both the FK and PFK, plus the SEI and SSEI scores).

The following hypotheses were checked for all ten measures.

Hypotheses:

(1) A significant difference will be found between the means of the two schools used in this study.

(2) A significant difference will be found between the means of boys and girls in this study.

(3) No significant interaction will be found between sex within school means.

CHAPTER IV

Analysis of the Data

Relationships between Techniques

To ascertain the degree of relationship between the items of the FK, the PFK, and the school and total SEI scores, a correlation matrix was generated. The IBM system 360/65 of the University of Florida Computing Center was used, in conjunction with the Education Evaluation Library computer programs. For interpretation of these data, the 99 percent level of confidence was chosen to afford some protection against the commission of a Type I error (see Table 2).

Results indicated significant positive relationships on 11 of the 18 variables of the FK and PFK. The highest relationship was indicated by a correlation coefficient of 0.32 between teacher and pupil ratings on variable five, pertaining to getting along with the teacher. Seven variables, despite their common origin, had correlations which could not be considered different from zero. In examining the correlations between the school factor of the SEI with each of the FK items, eleven coefficients were found which differed significantly from zero. The highest of these ($r = 0.29$) was between the SSEI and teacher ratings on variable 13, pertaining to speaking in front of the class. Comparing the FK items with the total Self-Esteem Index, eight coefficients could be considered larger than zero. The largest of these was the correlation of the SEI with variable seven, which asked the teacher if the student reads in class.

TABLE 2

Item Cross-Correlations of Florida Key, Pupil Florida Key, and Self-Esteem Indices

Item Number	FK/PFK	FK/SSEI	FK/SEI	PFK/SSEI	PFK/SEI
1	.25*	.20*	.06	.09	.18*
2	.10	.13	.07	.13	.15*
3	.15*	.06	.05	.10	.05
4	.22*	.06	.15*	.16*	.31*
5	.32*	.01	.08	.14	.20*
6	.29*	.15*	.15*	.12	.21*
7	.13	.23*	.20*	.12	.15*
8	.27*	.25*	.19*	.12	.17*
9	.22*	.19*	.10	.11	.18*
10	.19*	.19*	.12	.14	.19*
11	.20*	.08	.19*	.16*	.17*
12	.14	.22*	.10	.14	.18*
13	.20*	.29*	.16*	.30*	.15*
14	.04	.21*	.11	.05	.01
15	.08	.01	.08	.12	.21*
16	.12	.20*	.07	.01	.07
17	-.03	.15*	.16*	.06	.06
18	.22*	.11	.16*	.14	.15*

*p < .01

Relationships between the PFK and the school factor of the SEI showed only three coefficients significantly different from zero, the largest of which was again variable 13, the only variable which had correlation significantly larger than zero in all five categories examined. Considering that this latter analysis was between two self report indices, this low degree of relationship could be attributed to a fundamental difference between classroom behaviors and self-esteem associated with school, or it could have been due to the limited amount of variability available in the three-item school subscale. In comparing the PFK with the full SEI scale, fourteen coefficients appeared which were significantly larger than zero. The largest of these was variable four, getting along with other students, which had a correlation coefficient of 0.31 with the total SEI.

Factor scores were calculated for the four factors of the FK, and the coefficients which were thus generated were used to generate comparable factor scores for the PFK. The SEI scales were carried forward, and these ten variables were intercorrelated.

The correlations between the inferred self concept factors and the professed self concept factors have been presented in the principal diagonal of the matrix in Table 3. Two of the four factors showed coefficients which could be considered significantly different from zero. The magnitude of these correlations was sufficiently low to indicate that these measures were scored differently by the teachers and by the students. In order to check for a possible curvilinear relationship between the inferred scales and the self report scales, a polynomial fit was attempted between the dependent variable (inferred self concept) and the independent variable (self report). Twelve

TABLE 3

Intercorrelations of Inferred and Professed Learner Self Concept and Self-Esteem Scores

	Inferred Relating	Inferred Asserting	Inferred Investing	Inferred Coping	SSEI	SEI
Professed Relating	.22*	-.02	-.02	.02	.15*	.29*
Professed Asserting	-.19*	.19*	.08	-.03	.17*	.19*
Professed Investing	-.05	-.10	-.04	-.03	-.08	-.11
Professed Coping	.09	.05	.01	.14	.05	.06
SSEI	-.04	.22*	.14	.08	1.00	.59*
SEI	.09	.10	.00	.03	.59	1.00

*p < .01

analyses were thus performed using student scores for all variables, four with FK variables predicted from PFK variables and four each with the FK variables predicted by the SEI and SSEI variables. Three of the 12 analyses indicated significantly nonlinear components in the regression model (see Table 4).

Comparison between Schools

A set of analyses of variance, two-way factorial design, was run on the ten variables used within this study. Sex was identified as one source of variability, school as the second source, and the school-sex interaction as the third source. Summaries of the results of these analyses were listed in Table 5 for the four factors of the Florida Key, in Table 6 for the four factors of the Pupil Florida Key, and in Table 7 for the results of the two Self-Esteem Inventory indices. For these analyses, the .05 level of significance was employed, as fewer measures were analyzed.

On the measure of teacher-perceived relating, differences significant at the .05 level were found for both sex and school. On this measure, girls tended towards higher scores as did students in the innovative school, with girls in the innovative school scoring the highest. Only a slight difference separated the mean of the innovative school boys and the somewhat higher mean of the conventional school girls.

When determining teachers' differential perceptions of asserting in this population, no differences were found between sexes or schools. On the dimension of perceived investing, however, a distinct difference between the schools emerged, with the students in the innovative school rated as having a stronger tendency to invest of themselves

TABLE 4

Curvilinear Components of Three Self Report Variables Predicting Inferred Self Concept Variables

	df	SS	
Teacher Relating from Pupil Relating			
Linear Term	1	12.114	
Quadratic Term	1	4.253	eta = .26
Teacher Asserting from SEI			
Linear Term	1	2.671	
Quadratic Term	1	4.058	eta = .16
Teacher Investing from SEI			
Linear Term	1	.000	
Quadratic Term	1	8.502	eta = .19
Total deviation for all above analyses = 249, df = 248			

TABLE 5

Summary of F-Ratios and Cell Means
for Analyses of Variance of FK Factors

Source	df	Relating	Asserting	Investing	Coping
		F-Ratios			
Sex	1	4.209*	0.870	0.689	12.045**
School	1	4.461*	0.001	9.519**	0.312
Sex X School	1	0.092	0.700	1.798	0.426
Error	245				
		Means			
G.C.		0.035	0.004	-0.121	0.272
G.I.		0.268	0.112	0.104	0.118
B.C.		-0.269	-0.008	-0.186	-0.254
B.I.		-0.043	-0.120	0.382	-0.242

School Code: Conventional (C); Innovative (I)
Sex Code: Girls (G); Boys (B)

*p < .05
**p < .01

TABLE 6

Summary of F-Ratios and Cell Means
for Analyses of Variance of PFK Factors

Source	df	Relating	Asserting	Investing	Coping
		F-Ratios			
Sex	1	9.330**	0.152	4.832*	10.346**
School	1	5.365*	0.173	0.125	8.092**
Sex X School	1	9.020**	0.301	0.649	0.021
Error	245				
		Means			
G.C.		-0.118	0.032	-0.064	0.319
G.I.		0.552	-0.094	-0.214	-0.022
B.C.		-0.125	0.011	0.117	-0.069
B.I.		-0.211	0.029	0.176	-0.447

School Code: Conventional (C); Innovative (I)
Sex Code: Girls (G); Boys (B)

*p < .05
**p < .01

TABLE 7

Summary of F-Ratios and Cell Means
for Analyses of Variance of SEI Scores

Source	df	School SEI	Total SEI
	F-Ratios		
Sex	1	0.061	0.058
School	1	0.551	2.279
Sex X School	1	0.043	5.401*
Error	245		
	Means		
G.C.		-0.066	-0.206
G.I.		0.059	0.289
B.C.		-0.006	0.063
B.I.		0.064	-0.042

School Code: Conventional (C); Innovative (I)
Sex Code: Girls (G); Boys (B)

*$p < .05$
$df = (1,245)$

psychologically. Boys in the innovative school were the highest scorers on this variable, but boys in the conventional school were the lowest scorers, so no sex-linked differences were found.

On the question of how well the individual is perceived to cope with his school environment, a strong sex-linked difference was found, with girls perceived to be more efficient copers than boys.

When asking the students to rate themselves on these measures, girls in both schools rated themselves higher on relating behaviors than either group of boys, with girls in the innovative school showing the highest self rating. A significant school-sex interaction was found because the girls in the innovative school scored highest and the boys in the same school rated themselves lowest on this dimension.

With the dimension of asserting, no significant differences were found between the sexes or between the schools, nor was a differential effect found among sexes between the schools. With self-perceived investing, a sex-linked difference was found with boys scoring themselves higher on this dimension than girls.

In reporting on tendency to cope, students showed a strong tendency to differentiate on the basis of both sex and school, with girls showing higher scores than boys and the pupils at the conventional school perceiving themselves as more effective copers than those in the innovative school. Girls in the conventional school scored highest, followed by girls in the innovative school, who differed only slightly from boys in the conventional school, with boys in the innovative school indicating the lowest scores on this dimension.

In self-esteem measures, no differences were found on the school factor of the SEI in any of the sources of variability examined. On

the total self-esteem index, a significant interaction term was found, which resulted from the girls in the innovative school scoring highest, while girls in the conventional school scored lowest, and boys in the innovative school scored somewhat lower than their counterparts in the conventional school. There was a slight, nonsignificant tendency towards higher total self-esteem scores in the innovative school.

The first hypothesis, predicting significant differences in scoring between the sexes, was accepted five times, with the means favoring the girls four of the five times. The second hypothesis, predicting significant differences of scores between the schools, was accepted four times, with the means favoring the innovative school three of the four times. The third hypothesis, predicting no significant interaction of scores due to sex within school considerations, was accepted eight times.

CHAPTER V

Summary and Conclusions

Summary

In examining the cross-correlations of inferred self concept items and self report items taken respectively from the FK and the PFK, eleven of 18 variables showed correlations between measurement techniques significantly different from zero (range: $r = 0.15$ to 0.32) at the 99 percent confidence level (see Table 2). As this far exceeded chance probability of occurrence, common perceptions of pupil actions by teachers and pupils seemed the most probable explanation. The magnitudes of these correlations, however, were so low as to indicate that, at best, only about ten percent of the variability in a score obtained using one method could be accounted for by the score from the other method. This distinction between statistical significance and magnitude was of importance here due to two factors. The first factor was that the items answered were essentially the same for students and teachers. The second consideration was that the relative objectivity and overt classroom behavior orientation of the scale would seem to leave less room for variation due to item ambiguity. More simply put, the indication is that there was a little similarity and a considerable difference between the way fifth and sixth grade children in this study saw themselves in school-related activities and the way their teachers saw them. The reservations of Combs, Soper, and Courson

(1963) as to the lack of similarity of self report and inferred self concept seem to have been well borne out by this study.

An internal examination of the seven items which did not correlate between techniques showed two items each in the areas of relating, asserting, and coping, and one item in the area of investing. The most congruence in terms of the number of items associated with a factor which show statistically significant correlations between techniques was within asserting, where six of seven items were correlated. This would seem to imply that the area of asserting is one in which pupils and teachers can be most congruent, an implication which will be discussed later when factor indices are compared. The least congruence in these terms was within the factor of investing where neither item correlated between techniques.

Eleven of the 18 items on the FK correlated significantly with the school self-esteem measure (SSEI), with correlation coefficients ranging from 0.15 to 0.29. No items within the factor of teacher-perceived relating were correlated with the SSEI. Among the 11 items which did correlate were items six through nine, which relate to discussion within class. One of the three items of the SSEI was "I find it very hard to talk in front of the class," thus the correlations could be seen to relate in part to the in-class verbalizations of the student. It is interesting to note, however, that on the PFK, these verbalization items did not correlate significantly with the SSEI.

Eight items of the FK correlated with the total self-esteem score (SEI), with a much narrower range ($r = 0.15$ to 0.20) and at a lower level. No pattern could be discerned for the correlating or non-correlating items, which was in keeping with the results of the factor score correlations in this area to be discussed later.

Within the PFK, only three items showed any association with the school factor of the self-esteem inventory (SSEI). The absence of correlation of certain PFK items with the SSEI factor, namely the verbalization items mentioned earlier, gave an indication of the lack of reliability of self-reported single-item or limited-item indices. A sizable increase in the number of correlations (14) between the PFK items and the total SEI score hinted at the increased stability of the longer SEI scale. Two of the four items which did not correlate significantly with this scale were the items associated with investing. The conclusion should not necessarily be drawn, however, that investment of self is unrelated to self-esteem, but rather that behaviors seen by teachers as indicative of self-investment may not be seen in the same light by pupils.

Factor scores were calculated for all students on the basis of the FK factor analysis. Such scores were based on responses to all items within the test, but were most heavily weighted for those items which were most strongly associated with corresponding factors. This was undertaken both to increase reliability and to reduce dimensionality while increasing generality. Cross-correlations of scores for the four factors between the two techniques of measurement (self report and inferred self concept) indicated that two of the factors, relating and asserting, had statistically significant relationships (see Table 3). The factor of relating, when subjected to a polynomial analysis to determine whether pupil responses were curvilinearly related to teacher responses, showed a significant quadratic effect, raising the correlation index (eta = 0.26, Table 4). Further, the factor of coping, although not meeting the stated criterion for significance, showed a correlation coefficient of 0.14, significant at the 0.02 level.

In connection with the earlier discussion of item correlations, although more asserting variables were correlated across techniques than variables of the other three factors, the relating factor had the highest correlation (r = 0.22) across techniques. The factor of asserting, however, with a correlation coefficient of 0.19, was in the same general range as relating. It was considered likely that these two areas were seen as less central to self than the areas of coping and investing, and were, therefore, less susceptible to perceptual distortion.

The lack of correlation between teacher-perceived investing and self-professed investing was indicative of either lower reliability due to the number and relative loadings of the items which contributed to this factor or some differentiation between teachers' and pupils' perceptions of pupils' investing.

The relationship of teacher-inferred relating to self-professed asserting showed a statistically significant negative correlation of 0.19, indicating that those seen as high in relating behaviors by teachers tended, to a small extent, to see themselves as less asserting, and vice versa. However, when teachers evaluated asserting, this was unrelated to pupils' self-perceptions of relating.

When FK factor scores were correlated with the SSEI and the SEI, only one correlation was found to be statistically significant, that of teacher-inferred asserting and the SSEI (r = 0.22). This indicated that such activities as offering to answer questions in class, and joining in school activities, were related to items such as being discouraged with school, and being upset while there. Had this correlation been substantially higher, or had several factors correlated with this index, it

could have given a further indication of the dimensionality of the school self-esteem index (SSEI). Curvilinear analyses of these data showed the SEI to have significant quadratic components when used to predict scores on the inferred asserting and investing factors of the FK. The most plausible explanation of that finding was considered to be that after a certain low in teacher opinion is reached, the influence of that teacher's opinion is discounted by the child, who seeks other sources for maintenance and enhancement of self. The potential for such a dynamic to generalize and transfer to other teachers or to the school should be obvious.

The self report factors of relating and asserting from the PFK were significantly correlated with both the SSEI and the SEI ($r = 0.15$ to 0.29, Table 3), but professed investing and coping were not. This quite possibly reflects the absence of accomplishment-oriented items in the SEI.

Again, magnitudes of the correlation coefficients were only large enough to account for, at most, five percent of the variability of scores taken by one technique by considering scores from the other technique, which further confirmed the opinion that self report measures do not measure the same attributes that inferences of self by observers measure.

Comparisons between Schools and Sexes

In determining the differences between sexes, girls were perceived both by teachers and by themselves as higher in the areas of relating and coping (see Tables 5, 6, and 7). The more advanced maturity level of girls at this age level and the social expectancy for girls to be more socially oriented probably contributed in producing

this result, which was in concert with the findings of Perkins (1958a), Davidson and Lang (1960), and Bledsoe (1964). Sex by school interactions found in the areas of self-professed relating and on the SEI indicated that factors associated with the innovative school were in turn associated with higher scores for girls in that school as compared to girls in the conventional school. Boys' scores in the two schools differed only slightly on these two variables, with those in the conventional school scoring higher by about one-tenth of a standard score in both cases.

Differences between schools were found in teacher-perceived relating and investing and on pupil ratings of relating and coping. The innovative school teachers saw their pupils as possessing a higher frequency of socializing behaviors, as measured by the relating index, which perceptions were mirrored by the pupils themselves, relative to the conventional school. Pupils in the conventional school rated themselves higher on coping activities than the innovative school children. The present investigator felt that this probably reflected the lack of a standard reference point more than anything else, as he observed more coping behaviors in the innovative school, albeit through informal observation.

Conclusion

The absence of a high level of conformity between teachers' and pupils' perceptions of the frequency of occurrence of overt, school-based pupil activities can be attributed to distortions of the perceptions of these activities by teachers or pupils or both, or to pupils playing different roles in different classrooms and the related situation of their responding to the questionnaire on the basis of an

overall assessment of their school behavior, not necessarily representative of their behavior within any one classroom. Another interpretation could be differential interpretations of the scale intervals by different children, but the use of frequency assessment was chosen for its relative specificity.

If the explanation lies within the distortions of teachers' perceptions, the necessity for increased training for sensitivity within teacher education and in-service training programs, such as that called for by Combs, Avila, and Purkey (1971), is obvious. If, on the other hand, the distortions lie predominantly within the childrens' self-perceptions, then the same conclusion may be drawn, even though less obviously. The reasons for the later conclusion are twofold. More accurate and effective self-awareness on the part of the pupil is likely to come only through the intervention of the teachers, and thus the teachers must be cognizant of the fact of distortion, the factors which are associated with the distortion, and effective attitudes and methods to cope with children's distortions of self-perception.

Future research will include a study to determine the extent of teachers' sensitivity to perceptual distortions of pupils, using a modification of Brownfain's technique (1952). Also to be examined is the question of how well teacher perceptions of pupils are related to the perceptions of trained observers, and whether these results hold at different grade levels and with measures of different aspects of the self. Generalizability of these results to other populations of pupils could be compromised by differences in the factors influencing children's personalities, both school and non-school, as well as factors which influence pupils' and teachers' perceptions of school and school-related behaviors.

The value of the more relaxed and child-oriented atmoshpere of the innovative school was strongly indicated here, although the design of the study did not allow for conclusive statements on this point due to the confounding of raters within schools. Since investing behavior may be seen as of a higher order in terms of Maslow's (1943) hierarchy, the large difference in inferred investing behavior in favor of the innovative school indicated a very promising payoff for the emphasis placed on efforts to enable the students of that school to internally motivate and individualize their own learning.

APPENDIX A

Florida Key

This scale is to assist the teacher in evaluating how the student perceives his or her "learner" self. Please select one of the following answers and record the number in the blank space.

NEVER: 0	VERY SELDOM: 1	ONCE IN AWHILE: 2	OCCASIONALLY: 3	FAIRLY OFTEN: 4	VERY OFTEN: 5

Name of student to be evaluated

Compared with other students his age, does this student:

1. get along with other students? _____
2. get along with the teacher? _____
3. keep calm when things go wrong? _____
4. say good things about his school? _____
5. tell the truth about his school work? _____
6. speak up for his own ideas? _____
7. offer to speak in front of the class? _____
8. offer to answer questions in class? _____
9. ask meaningful questions in class? _____
10. look people in the eye? _____
11. talk to others about his school work? _____
12. join in school activities? _____
13. seek out new things to do in school on his own? _____
14. offer to do extra work in school? _____
15. finish his school work? _____
16. pay attention to class activities? _____
17. do his school work carefully? _____
18. read in class? _____

TOTAL SCORE: _____

APPENDIX B

Pupil Florida Key

This scale is to help you in thinking about yourself. Please select one of the following answers and record the number in the blank spaces.

NEVER: 0	VERY SELDOM: 1	ONCE IN AWHILE: 2	OCCASIONALLY: 3	FAIRLY OFTEN: 4	VERY OFTEN: 5

Your Name

Compared with other students my age, do I:

1. get along with other students? _____
2. get along with the teacher? _____
3. keep calm when things go wrong? _____
4. say good things about my school? _____
5. tell the truth about my school work? _____
6. speak up for my own ideas? _____
7. offer to speak in front of the class? _____
8. offer to answer questions in class? _____
9. ask meaningful questions in class? _____
10. look people in the eye? _____
11. talk to others about my school work? _____
12. join in school activities? _____
13. seek out new things to do in school on my own? _____
14. offer to do extra work in school? _____
15. finish my school work? _____
16. pay attention to class activities? _____
17. do my school work carefully? _____
18. read in class? _____

TOTAL SCORE: _____

APPENDIX C

Self-Esteem Inventory (SEI)
Stanley Coopersmith
University of California, Davis

Please mark each statement in the following way:
If the statement describes how you usually feel, put a check (v) in the column "LIKE ME."
If the statement does not describe how you usually feel, put a check (v) in the column "UNLIKE ME."
There are no right or wrong answers.

	LIKE ME	UNLIKE ME
Example: I'm a hard worker.		
1. I often wish I were someone else.		
(2) I find it very hard to talk in front of the class.		
3. There are lots of things about myself I'd change if I could.		
4. I can make up my mind without too much trouble.		
(5) I'm a lot of fun to be with.		
6. I get upset easily at home.		
7. It takes me a long time to get used to anything new.		
(8) I'm popular with kids my own age.		
(9) My parents usually consider my feelings.		
(10) I give in very easily.		
11. My parents expect too much of me.		
12. It's pretty tough to be me.		
13. Things are all mixed up in my life.		
(14) Kids usually follow my ideas.		
15. I have a low opinion of myself.		
16. There are many times when I'd like to leave home.		
(17) I often feel upset in school.		
(18) I'm not as nice looking as most people.		
19. If I have something to say, I usually say it.		
20. My parents understand me.		
(21) Most people are better liked than I am.		
22. I usually feel as if my parents are pushing me.		
23. I often get discouraged in school.		
24. Things usually don't bother me.		
(25) I can't be depended on.		

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BIOGRAPHICAL SKETCH

William H. Graves, Jr. was born in Dalton, Georgia, on November 14, 1939. He moved to Daytona Beach, Florida, where he attended elementary and secondary school. He attended Southern Methodist University, Dallas, Texas, in 1957-1958 and the University of the Americas, Mexico City, Mexico, in 1958-1960, before enlisting in the United States Air Force in 1960. During military service, he attended Indiana University for one year. After discharge, he returned to the University of the Americas, being granted the Bachelor of Arts degree in secondary education in 1965.

He taught mathematics for three years at Mainland Junior High School in Daytona Beach and conversational Spanish at Daytona Beach Junior College during two of those years. In 1968, he enrolled in graduate work in psychological foundations of education in the College of Education, University of Florida, Gainesville, Florida. He earned the Master of Education degree in 1970.

He married the former Joan Lynn Dugand of Mexico City in 1966, and they have two children. Professional affiliations include membership in the American Educational Research Association, the Florida Educational Research Association, and Phi Delta Kappa.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

William W. Purkey, Chairman
Professor of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Bob N. Cage
Assistant Professor of Education

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Dean of the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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